

## REPORT ON MACHINERY.

No. 666

Port of NantesReceived at London Office MON. AUG. 19, 1912No. in Survey held at Nantes & St. Nazaire Date, first Survey 24<sup>th</sup> May 1911 Last Survey 16<sup>th</sup> Aug 1912Reg. Book. 156 on the Steel Screw Steamer "Saint Joseph" (Number of Visits 62)Master Quemper. Built at St. Nazaire By whom built Ateliers & Chantiers de la Loire Tons { Gross 5800  
Net 3688Engines made at Nantes By whom made Ateliers & Chantiers de la Loire When built 1912Boilers made at Nantes By whom made Ditto when made 1912Registered Horse Power 446 Owners Cie. Navale de l'Océanie Port belonging to BordeauxNom. Horse Power, as per Section 28 446 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted YesENGINES, &c.—Description of Engines Triple expansion, reciprocating No. of Cylinders 3 No. of Cranks 3Dia. of Cylinders 25.6, 42.52, 68.5 Length of Stroke 51.2 Revs. per minute 70 Dia. of Screw shaft 15.136 Material of Forged  
as fitted 15.157 screw shaft Ingot SteelIs the screw shaft fitted with a continuous liner the whole length of the stern tube Yes Is the after end of the liner made water tightin the propeller boss Yes If the liner is in more than one length are the joints burned Yes If the liner does not fit tightly at the partbetween the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive Yes If twoliners are fitted, is the shaft lapped or protected between the liners Yes Length of stern bush 61 13/16Dia. of Tunnel shaft as per rule 13.15 Dia. of Crank shaft journals as per rule 13.81 Dia. of Crank pin 14.25 Size of Crank webs 5 5/8 x 9 1/2 Dia. of thrust shaft undercollars 13.86 Dia. of screw 228.35 Pitch of Screw 201 No. of Blades 4 State whether moveable Yes Total surface 108 sq. ft.No. of Feed pumps 2 Diameter of ditto 3 25/32 Stroke 25 5/8 Can one be overhauled while the other is at work YesNo. of Bilge pumps 2 Diameter of ditto 3 25/32 Stroke 25 5/8 Can one be overhauled while the other is at work YesNo. of Donkey Engines 1 Ballast pump Washington, dia 9 1/8, Stroke 10 1/4 No. and size of Suctions connected to both Bilge and Donkey pumpsIn Engine Rooms 2 Centre 4 wing (2 on each side), each 3 1/2 In Holds, &c., in each of Nos. 1, 2 & 3 Holds, Centre 3 1/2 Living 2 1/2No. of Bilge Injections 1 sizes 7/8 Connected to condenser, or to circulating pump Yes Is a separate Donkey Suction fitted in Engine room & size Yes - 3 1/2Are all the bilge suction pipes fitted with roses Yes Are the roses in Engine room always accessible Yes Are the sluices on Engine room bulkheads always accessible noneAre all connections with the sea direct on the skin of the ship Yes Sea inlet box Yes Are they Valves or Cocks 6 Valves & 3 cocksAre they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates Yes Are the Discharge Pipes above or below the deep water line aboveAre they each fitted with a Discharge Valve always accessible on the plating of the vessel Yes Are the Blow Off Cocks fitted with a spigot and brass covering plate YesWhat pipes are carried through the bunkers Bilge suction pipes How are they protected Efficiently with wood casingAre all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times YesAre the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges YesDates of examination of completion of fitting of Sea Connections 10-6-12 of Stern Tube 27-7-12 Screw shaft and Propeller 13-8-12Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from upper deckBOILERS, &c.—(Letter for record (S)) Manufacturers of Steel Bottom and Shell plates, Schneider & Co., Creusot; Furnaces, Sauerbruch & Co., Düsseldorf; remaining plates and bars by theTotal Heating Surface of Boilers 5384 sq. ft. Is Forced Draft fitted Yes No. and Description of Boilers Two cylindrical Scotch BoilersWorking Pressure 178 lbs. Tested by hydraulic pressure to 320 lbs. Date of test 30<sup>th</sup> April 1912 No. of Certificate 31Can each boiler be worked separately Yes Area of fire grate in each boiler 63 sq. ft. No. and Description of Safety Valves toeach boiler 2 Schuillier-Paul improved Area of each valve 5.94 Pressure to which they are adjusted 183 lbs. Are they fitted with easing gear YesSmallest distance between boilers on uptakes and bunkers on woodwork 10" Mean dia. of boilers 15.6 Length 11.5 1/2 Material of shell plates SteelThickness 20.8 Range of tensile strength 28.4 to 29.1 Are the shell plates welded or flanged No Descrip. of riveting: cir. seams Double laplong. seams Double lap Diameter of rivet holes in long. seams 1.42 Pitch of rivets 9.24 Top of plates or width of butt straps 19 7/16Per centages of strength of longitudinal joint 97.7 Working pressure of shell by rules 188 lbs. Size of manhole in shell 17 3/4 x 13 3/4Size of compensating ring as per app. plan No. 9 and Description of Furnaces in each boiler 3 "Morison" corrugated Material Steel Outside diameter 49 3/32Length of plain part top 9.8 Thickness of plates bottom 9.8 Description of longitudinal joint Yes No. of strengthening rings YesWorking pressure of furnace by the rules 199 lbs. Combustion chamber plates: Material Steel Thickness: Sides 9.4 Back 9.4 Top 9.4 Bottom 12.6Pitch of stays to ditto: Sides 7 1/8 x 7.6 Back 8.5 x 7.1 Top 7 1/8 x 8.2 If stays are fitted with nuts or riveted heads Yes Working pressure by rules 183 lbs.Material of stays Steel Diameter at smallest part 1.4 Area supported by each stay 65.2 Working pressure by rules 189 lbs. End plates in steam space:Material Steel Thickness 16.4 Pitch of stays x 15.75 How are stays secured Double nuts Working pressure by rules 180 lbs. Material of stays SteelDiameter at smallest part 2 1/2 Area supported by each stay 260.5 Working pressure by rules 195 lbs. Material of Front plates at bottom SteelThickness 15.1 Material of Lower back plate Steel Thickness 15.1 Greatest pitch of stays 13.4 x 7.1 Working pressure of plate by rules 198 lbs.Diameter of tubes 2 1/2 Pitch of tubes 3.64 x 3.66 Material of tube plates Steel Thickness: Front 15.1 Back 12.6 Mean pitch of stays 8.21Pitch across wide water spaces 13 Working pressures by rules 329 & 215 lbs. Girders to Chamber tops: Material Steel Depth andthickness of girder at centre 9 1/2 x (2 x 12.6) Length as per rule 31 1/16 Distance apart 8.27 Number and pitch of stays in each 3 - 7 1/2Working pressure by rules 217 lbs. Superheater or Steam chest; how connected to boiler Yes Can the superheater be shut off and the boiler workedseparately Yes Diameter Yes Length Yes Thickness of shell plates Yes Material Yes Description of longitudinal joint Yes Diam. of rivetholes Yes Pitch of rivets Yes Working pressure of shell by rules Yes Diameter of flue Yes Material of flue plates Yes Thickness YesIf stiffened with rings Yes Distance between rings Yes Working pressure by rules Yes End plates: Thickness Yes How stayed YesWorking pressure of end plates Yes Area of safety valves to superheater Yes Are they fitted with easing gear Yes

W1574-0032



## VERTICAL DONKEY BOILER—Manufacturers of Steel

No.	Description	Made at	By whom made	When made	Where fixed	Date of writing
Working pressure	tested by hydraulic pressure to	Date of test	No. of Certificate	Fire grate area	Description of Safety	No. in Sur Reg. Book
Valves	No. of Safety Valves	Area of each	Pressure to which they are adjusted	Date of adjustment		156 on t
If fitted with easing gear	If steam from main boilers can enter the donkey boiler	Dia. of donkey boiler	Length			Master
Material of shell plates	Thickness	Range of tensile strength	Descrip. of riveting long. seams			Engines mad
Dia. of rivet holes	Whether punched or drilled	Pitch of rivets	Lap of plating	Per centage of strength of joint	Rivets	Boilers made
Working pressure of shell by rules	Thickness of shell crown plates	Radius of do.	No. of stays to do.	Dia. of stays	Plates	Registered Ho
Diameter of furnace Top	Bottom	Length of furnace	Thickness of furnace plates	Description of joint		MULTITU
Working pressure of furnace by rules	Thickness of furnace crown plates	Stayed by				Letter for rec
Diameter of uptake	Thickness of uptake plates	Thickness of water tubes	Dates of survey			Boiler One

SPARE GEAR. State the articles supplied: *One propeller shaft, one crank shaft, 2 propeller blades, 1 air-pump rod, 2 eccentric straps. Remainder in excess of Rule requirements.*

The foregoing is a correct description,

*Flaming* DIRECTEUR

Manufacturer.

Dates	During progress of work in shops	During erection on board vessel	Total No. of visits	Is the approved plan of main boiler forwarded herewith
24 May, 26-27 June, 22-23 August, 4-25 Sept., 6-7-16-23 Oct., 2-14-18-25-30 Nov., 1-7-14-23 Dec. 1911, 3-9-19-31 Jan. 1912	10-19-28 Feb., 1-2-12-19-27 March, 6-13-20-24-30 April, 7-13-20 May, 9 July, 1-6 August 1912	21-25-30 May, 3-7-10-12-22-28 June, 2-8-13-17-23-27 July, 10-13-14-16 August 1912	<i>Sixty two.</i>	Yes
				auxiliary donkey

Dates of Examination of principal parts	Cylinders	Slides	Covers	Pistons	Rods	Connecting rods	Crank shaft	Thrust shaft	Tunnel shafts	Screw shaft	Propeller	Stern tube	Steam pipes tested	Engine and boiler seatings	Engines holding down bolts	Completion of pumping arrangements	Main boiler safety valves adjusted	Thickness of adjusting washers	Material of Crank shaft	Identification Mark on Do.	Material of Thrust shaft	Identification Mark on Do.	Material of Tunnel shafts	Identification Marks on Do.	Material of Screw shafts	Identification Marks on Do.	Material of Steam Pipes	Test pressure
12-3-12	20-4-12	27-3-12	24-4-12	24-4-12	27-3-12	27-3-12	27-3-12	27-3-12	27-3-12	31-1-12	20-4-12	28-2-12	14-5-12	14-5-12	8-7-12	14th Aug. 1912	16th Aug. 1912	14-5-12	Forged	W.K. 1912	Forged	W.K. 1912	do	W.K. 1912	do	W.K. 1912	Drawn Steel	30 Kilos. per sq. centimetre

General Remarks (State quality of workmanship, opinions as to class, &c.)

For reference, please see Secretary's letters of 21st March, 10th & 13th April, 8th, 27th & 28th June, 18th August & 19th Dec. 1911, and printed Memo 3rd May 1912.

Two Watson's feed-pumps, 7 dia. & 21 strokes, fitted with automatic speed regulators, a Watson's feed-heater, a "Luggin's feed-water filter, a "Cineo" evaporator by the Central Marine Engine Works of West Hartlepool, an auxiliary condenser, hot-well, & filter of Messrs. les Ateliers & Chantiers de la Loire's own make, have been supplied.

The above Engines & Boilers have been built under Special Survey in accordance with the Rules & the plans submitted to and approved by the Committee. The workmanship is of the best description throughout, & the material of the Boilers which is of Open Hearth steel was tested before delivery & fulfilled all requirements. All the shafts are forged of annealed Siemens-Martin Ingot Steel manufactured by Messrs. Oberlinck & Stahlwerk Akt. Ges. of Düsseldorf-Oberlinck and tested before delivery by the Society's Düsseldorf Surveyors. The hydraulic tests of the Boilers & of the Main steam pipes gave every satisfaction. The Cylinders & condenser were also satisfactorily tested in my presence by hydraulic pressure.

The Boiler safety valves were tested under steam & the accumulation never approached 10% of the Soc

The amount of Entry Fee	£	3	When applied for,
Special Certificate	£	42. 6	17th Aug. 1912
Donkey Boiler Fee	£		When received,
Travelling Expenses (if any)	£	9	19

Committee's Minute

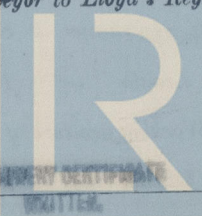
FRI. AUG. 23. 1912

Assigned

see minute on Rts. Rpt 6.6.6

attached

Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.



Lloyd's Register Foundation